



HOW TO... Create 3D images

If you want something to keep you occupied while you're flying to a holiday destination, Mike Bedford has a good alternative to the inflight movie. Here he shows you how to take 3D photos from an aircraft window

Having two eyes enables us to see things from two slightly different viewpoints. The brain uses this information to build up a three-dimensional image. But because our eyes are close together, the two views are only substantially different for nearby objects; our sense of 3D diminishes with distance. If you take a pair of digital photographs of a distant scene, however, with the two viewpoints separated by a reasonable distance, you can combine them to produce a 3D effect that you would never normally see.

You can use the movement of an aircraft to provide the necessary separation between two shots. You also need a program called Z-Anaglyph (available as a free download from www.z-graphix.com/anaglyph/zanag_en.htm) and a pair of red-blue 3D glasses – you can buy two pairs for £1.50 from Media 55 (www.media55.co.uk/5.htm).

To take photographs in an aircraft you need to make sure you get a suitable seat. When you check in, ask for a window seat that's clear of the wings. Ideally, go for a seat in front of the wing rather than behind it so your view isn't distorted by the exhaust fumes from the jet engines.

1 To take a suitable pair of photographs, just brace your camera against the aircraft window, press the shutter release button and press it again a short time later, taking care not to move the camera between shots. How long you wait between shots is down to trial and error; we found that a gap of five seconds gives good results. Ideally, take a series of shots and choose the best

pair. If you take five photographs at two-second intervals, you can then choose a separation of two, four, six or eight seconds.

When deciding what to shoot, remember that mountains always make good subject matter and the presence of a few clouds gives a good sense of depth. You're not paying for film, so you can experiment with lots of different scenes.

2 Photographs taken from an aircraft often suffer from limited contrast due to the poor optical quality of the aircraft window and atmospheric haze. In many cases, your first job is to improve the contrast. Use your favourite photo-manipulation software and experiment with different settings of brightness and contrast. Make a note of exactly how much you change these values so you can do the same to the other photograph in the pair. When you save your enhanced photographs, give them names that indicate they are left or right.

3 Next you have to turn the pair of photographs into an anaglyph, a single 3D image that can be viewed using special red-blue glasses. Launch Z-Anaglyph, and click on the Preferences icon – the spanner and screwdriver. Select English as the language. Click on the Open Left Image icon (the left folder) and select your left-eye image. Then click on the Open Right Image icon and select your right-eye image. You'll see both your photographs displayed in Z-Anaglyph's two preview windows.

4 Select Color as the Composite Image type in the left drop-down list and Default as the type of glasses in the right drop-down list. Click the Generate Composite Image icon (the left of the two pairs of glasses) and an anaglyph will appear in its own preview window. To see it in detail, maximise the window and view it using a pair of red-blue 3D glasses. Make sure you have the red lens over your left eye and the blue lens over your right eye, to match the icon you used to generate the anaglyph.

5 It's hard to hold the camera perfectly still between the two shots, so you might find that the camera angle changed between them. This will result in an imperfect 3D effect, but you can fix it. When you view the composite image without the glasses, you'll see red and blue ghosts of some objects. These should be in different positions horizontally, but need to be at the same vertical height. If they aren't, you can correct the error by clicking on the Offset Left Image icon (the four-headed arrow) and adjusting the vertical position until it looks correct.

6 Once you're happy with your anaglyph, you can save it by clicking on either of the two Save icons (the floppy disks). The left one saves it as a JPEG; the right saves it as a TIFF. You can then print your anaglyph or view it onscreen. If you're viewing it onscreen, you'll get the best results in a slightly darkened room while you're sitting well back from the monitor.

